

# **Operation Allied Force:**

## **A Lesson on Strategy, Risk, and Tactical Execution**

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*The U.S. seems to have developed a pattern of intervention since the end of the Cold War--actually adopting a new way of war. Absent a peer competitor, America has the ability and desire to intervene in conflicts that have little to do with vital national interests. Consequently, the U.S. has chosen to wage war, pursuing results that are not critical to the nation's strategic goals. This essay will draw the connection from strategic decision making to the tactical execution of America's interests while highlight the cost of intervening—and the impact of strategic decisions from the perspective of military commanders at the tactical level. Additionally, this article will show commanders' differing opinions and assumptions when it comes to accepting risks and their impacts on mission accomplishment. Finally, I make recommendations for incorporating risk assumptions at all command levels in future combat operations—ensuring assumptions are explicitly stated and received.*

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE <b>2000</b>		2. REPORT TYPE <b>N/A</b>		3. DATES COVERED <b>-</b>	
4. TITLE AND SUBTITLE <b>Operation Allied Force: A Lesson on Strategy, Risk, and Tactical Execution</b>				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>National Defense University National War College Washington, DC</b>				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release, distribution unlimited</b>					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>UU</b>	18. NUMBER OF PAGES <b>32</b>	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			

## **I. Introduction**

Much has been written about NATO's decision to intervene in Serbia's internal conflict. Was it justified and legal? Does moral authority outweigh legal authority when it comes to human suffering and atrocities within a sovereign nation? Also, the debate over which targets should be struck--in what order of priority for immediate impact on the situation--consumed a great deal of intellectual capital. The purpose of this essay is different. It seeks to capture personal experience from leading the 22<sup>nd</sup> Fighter Squadron (22 FS) in Operation Allied Force. I had the proud honor to command and lead a premier fighter squadron in two separate combat operations, nearly simultaneously, from January 1999 through June 1999.

The 22 FS entered the war on the fourteenth day, just two days after redeploying from nearly three months over northern Iraq, and found a startling contrast in Allied Force—this was the big one! Yet, there was an unexpected feeling of caution as the war progressed that you wouldn't expect from a force with superior numbers and firepower. Higher echelon commands imposed limits on our ability to dominate the skies over Serbia. Fellow squadron commanders provided valuable insight and their views are incorporated into the analysis. The major areas I will address are: risk, casualty aversion, and their impact on mission accomplishment. On this basis, I will analyze the implications of this campaign for future combat operations.

The U.S. seems to have developed a pattern of intervention since the end of the Cold War, to the point of actually adopting a new way of war. Absent a peer competitor, we have both the ability and desire to intervene in conflicts that have little to do with vital national interests. Consequently, the U.S. has chosen to wage war, pursuing results that

are not critical to the nation's strategic goals. This, in turn, shapes decisions on how much and what type force to use—more so than in the past.

In this way of war, limited means are used to achieve limited objectives. In turn, limited objectives lead to a decision to minimize casualties and casualty aversion becomes more important. Military commanders find themselves asking the question “is the American public willing to see body bags arriving at Dover Air Force Base over a conflict that has little importance to the U.S. way of life?”

## **II. Thesis**

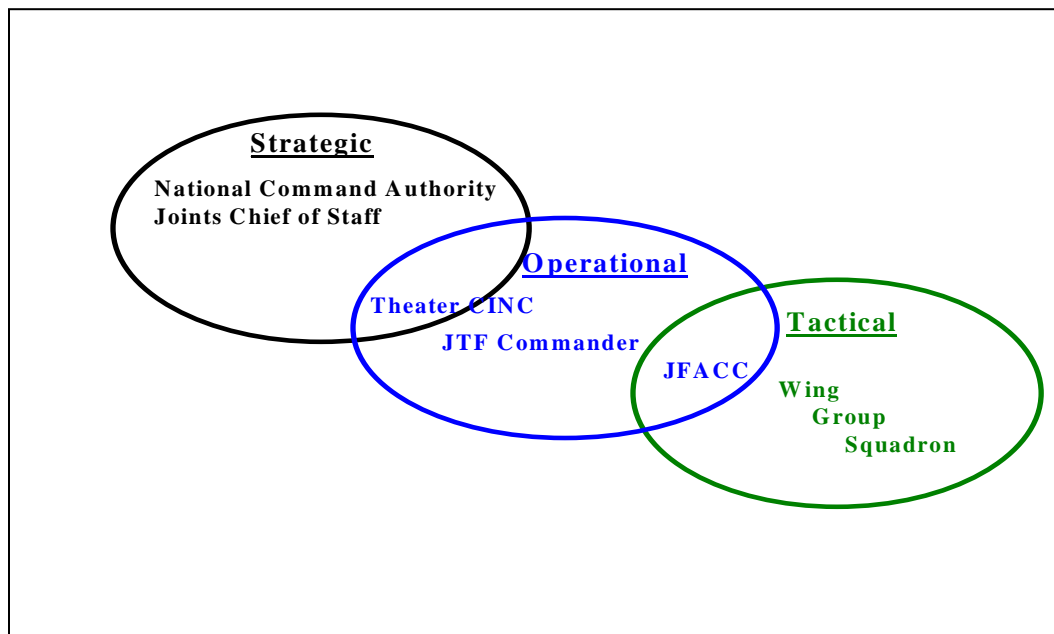
The strategic decision to minimize the risk of American casualties during the war with Serbia, and restricted by withholding U.S. ground forces, created a cascading effect that shaped decisions by each subordinate commander in the chain of command. The unintended consequence of these operating limitations and restrictions—both explicit and implicit—reduced mission effectiveness, lengthened the campaign, and put aircrews at greater risk\* to enemy air defenses over time.

This essay will draw the connection from strategic decision making to the tactical execution of our nation's interests (Figure 1). The goal is to highlight the cost of intervening—and the impact of strategic decisions from the perspective of military commanders at the tactical level—that is, those charged with executing the strategy. Additionally, this article will show the differing opinions and assumptions by commanders at different levels when it comes to accepting risks and their impacts on

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\* Risk is a term used throughout the DoD in the current national military strategy of conducting two nearly simultaneous major theater wars (MTW). The “Win-Hold-Win” approach to the dual-MTW scenario assumes the U.S. will have to assume “risk” in one theater of war because our military force structure will be stressed to the maximum to provide strength to meet national objectives. Risk is defined as the “*probability and severity of loss linked to hazards.*”<sup>1</sup> Degrees of risk; emergency, moderate, and negligible, are defined in the context of the hazard to troops engaged on a nuclear battlefield—not a conventional, limited war.

mission accomplishment. Finally, I will make recommendations for incorporating risk assumptions at all command levels in future combat operations—and ensuring those assumptions are explicitly stated and received.



**Figure 1. Linkage of Policy Levels**

### **III. The Link From Strategy to Tactics**

The political climate in the United States while NATO continued on this collision course of conflict with Serbia was tenuous. Politically, the United States was embroiled by the President's looming impeachment in the House of Representatives and the trial in the United States Senate. The impeachment process dominated the headlines and media focus was centered on these domestic political issues rather than on foreign policy issues.

A review of strategic posturing and decision-making by the United States House of Representatives shows a cautious and low-risk approach to the looming crisis in Kosovo. Specifically, the Congress wanted the President to know that committing U.S.

ground forces in a combat situation was beyond the level of commitment the American people would accept. The House introduced two relevant resolutions in early 1999. The first resolution, “*expresses Congress’ opposition to any deployment of U.S. ground forces into the Serbian province of Kosovo for peacemaking or peacekeeping purposes.*”<sup>2</sup> The second resolution, “*authorizes the President to deploy U.S. armed forces personnel to Kosovo as part of the North Atlantic Treaty Organization (NATO) peacekeeping operation implementing a Kosovo peace agreement. . . subject to the following limitations. . .*”<sup>3</sup> Concurrent resolutions are non-binding and serve as warnings to the President to proceed with caution on policy matters. The concurrent resolution also serves to put the President on notice and weigh the amount of political capital he is willing to invest in a policy decision. These two pre-conflict resolutions communicated concern about the risks involved in placing U.S. soldiers on the ground in Kosovo and the implications of an additional permanent peacekeeping force (a la Bosnia) on military readiness.

The House also endorsed “*self determination of Kosova*”<sup>4</sup> and, on the eve of the air war over Serbia, the Congress “*expresse[d] full support for the U.S. armed forces in efforts to halt the brutal ethnic cleansing of Kosovar Albanians.*”<sup>5</sup> These actions reflected the general public mood; “something” needed to be done to solve the situation in Kosovo--military force would be acceptable--but not to the point of a long-term commitment and potential for casualties symbolized by the commitment of U.S. ground forces.

Congress continued its cautious approach to the use of military force throughout the conflict. A resolution introduced on the 43<sup>rd</sup> day of the war, “*expresses Congress’*

*desire to negotiate a peace settlement without the introduction of U.S. ground forces.”<sup>6</sup>*

There is an implicit thread through Congress’ resolutions—no ground forces in a non-permissive environment—continual resolutions that seek to minimize the level of force used and minimize American casualties.

The Joint Chiefs of Staff began planning for the crisis in Kosovo as early as the summer of 1998. Crisis planning by the Joint Staff included a variety of options for using military force to support the political objectives. Although ground force options were presented to the Joint Chiefs of Staff for consideration, they dismissed all courses of action that called for ground forces. That is to say, the Joint Chiefs never presented the National Command Authority a viable ground force option throughout the planning process, from the summer of 1998 through 1999. The Joint Chiefs did not view the situation in Kosovo as a “vital” interest and were unwilling to commit ground forces. Thus, the U.S. military leadership made a decision on the level of America’s commitment in the Kosovo region. This view was based on the assumption that the public would not accept American casualties in a conflict that had no tie to the survival of the nation.<sup>7</sup>

President Clinton added the final piece of the strategic concept relating to the use of force, risk and casualty aversion. On the eve of the conflict, the President addressed the nation, identified America’s interests and objectives in the conflict in Kosovo and discussed the risk to airmen—while drawing the line of commitment by ruling out the use of ground forces.

“ Now, I want to be clear with you, **there are risks in this military action -- risks to our pilots and the people on the ground.** Serbia's air defenses are strong. It could decide to intensify its assault on Kosovo, or to seek to harm our allies or us elsewhere. If it does, we will deliver a forceful response. . . . Hopefully, Mr. Milosevic will realize his present course is self-destructive and unsustainable. If he decides to accept the peace agreement and demilitarize Kosovo, NATO has agreed to help to implement it with a peacekeeping force. If NATO is invited to do so, our

troops should take part in that mission to keep the peace. **But I do not intend to put our troops in Kosovo to fight a war.**<sup>2</sup>

Thus, the climate for intervention in Kosovo was set—framed by a concern for casualties and the risk to fighting forces. The President, the Joint Chiefs of Staff and Congress had all sent explicit and implicit signals to subordinate commanders. The explicit message authorized the use of military force; the implicit message was to use that force in a way that minimized the risk of losses.

The strategic decision making level meets the operational level, at the intersection between the National Command Authority--President Clinton and Secretary Cohen—and, in this case, the Commander-in-Chief, United States European Command (CINCEUR/ SACEUR), General Wesley Clark, USA.<sup>9</sup> SACEUR authorized detailed mission planning for possible intervention in Kosovo in the summer of 1998 and began regular coordination with his United States Air Component Commander at HQ United States Air Forces in Europe (USAFE).<sup>10</sup> SACEUR met with his subordinate commanders and staff on a routine basis to refine the military planning and proposed operations to resolve the conflict. He regularly emphasized a primary goal of *no losses of aircrew in the air campaign*. It is unclear whether SACEUR indeed received explicit or implicit direction from NATO's political leadership on the impact of casualties and coalition cohesion. The undisputed fact is that SACEUR explicitly expressed the preoccupation with casualty aversion to operational level commanders who were charged with prosecuting the nightly air war over Serbia.<sup>11</sup>

#### **IV. Operational Level “Risk Aversion”**



The United States Joint Task Force-Noble Anvil (JTF-NA), led by ADM James Ellis, USN, and his joint force air component command, led by Lt Gen Michael Short, USAF, embodied the operational level.<sup>12</sup> Gen Short, as the joint force air component commander (JFACC), and NATO's southern region allied air commander, was responsible for planning and executing the alliance's air campaign in the war over Serbia.

Much has been written about the JFACC's disagreements with SACEUR concerning Serbia's center of gravity and how the campaign should have been conducted from the differing perspectives of an airman and a soldier.<sup>13</sup> Initial air campaign planning included a systematic effort to reduce air defense targets, while striking high value strategic targets in and around Belgrade. This targeting plan did not survive the political consensus-building process that led to NATO's decision to go to war with Serbia. Rather, NATO politicians agreed on an incremental approach with an escalating campaign to compel the Serbian government to meet NATO's demands. With that in mind, the JFACC had to restructure the air campaign and prepare for a limited air operation of 48-72 hours in duration.

As any responsible military commander would, the JFACC, considered the risk of aircrews within the constraints of a limited air campaign. After all, if the sole objective is to show NATO's resolve-- and the opposition is expected to capitulate after 48-72 hours of bombing-- then why take excessive risk? The JFACC had received explicit, but undocumented, orders from SACEUR to minimize losses in the air campaign. This admonition was issued through the daily VTC's and allowed the JFACC the flexibility to implement risk reduction procedures at the tactical level. Concerning risk to aircrews, Gen Short said:

“You want to risk your young people—and your old people for that matter—to the minimum degree acceptable to get the job done . . . when the decision is made to use force, then we need to go in with overwhelming force, quite frankly, extraordinary violence that the speed of it, the lethality of it . . . the weight of it has to make an incredible impression on the adversary to such a degree that he is stunned and shocked . . .”<sup>14</sup>

Clearly, Gen Short’s disagreement with the conduct of the air campaign in the initial phases colored his view of risk to aircrews. As the JFACC, he could not change the target set nor influence NATO ministers on how the campaign should proceed. However, he could establish operating procedures that allowed the aircrews to conduct strikes while minimizing their exposure to the Serbian air defenses. Within his sphere of influence, he could balance mission accomplishment with risk. The JFACC established several operating restrictions early on. There were:

1. Minimum altitude of 15,000’ mean sea level (MSL).
2. Night-only strikes
3. U.S.-only strikes near Serbia’s highest threat area (Belgrade, north of the 44<sup>th</sup> Parallel).

Some of Serbia’s AAA systems had an effective altitude below 10,000’ MSL. The altitude restriction applied to all missions and reduced vulnerability to anti-aircraft artillery (AAA) fire. Historically, AAA is responsible for downing the vast majority of aircraft during war. Flying at night further reduced the Serbian air defense’s capabilities and forced the Serbs to rely purely on radar to track and engage aircraft. This rendered visual observers useless for locating, tracking, and engaging NATO’s strike packages. By using “U.S.-only” strike packages near Belgrade (F-117, B-2, EA-6B, F-16CJ, F-15C aircraft) the JFACC could also rely on the protective nature of stealth (B-2, F-117), the standoff lethality and protection offered by electronic attack (EA-6B, F-16CJ)

and the air superiority umbrella provided by the F-15C's. These are reasonable, prudent approaches to a limited duration air campaign.

Gen Short “. . . *expected to come out of the first couple of nights, having lost a couple of airplanes, but having essentially destroyed the Serbian surface-to-air missile system.*”<sup>15</sup> As it turned out, his prediction was correct. NATO lost only one aircraft in the early days of the campaign, an U.S. F-117 flying over the heaviest defended target area around Belgrade, downed by a Serbian surface-to-air missile (SAM) system.

As the campaign continued and the focus of the effort shifted to the Serbian ground forces in Kosovo, the JFACC was forced to confront the dilemma of mission accomplishment versus risk to aircrews as a result of a tragic error. On April 14<sup>th</sup>, a refugee column was misidentified as an element of the Serbian ground forces and NATO aircraft mistakenly bombed fleeing Kosovar Albanian refugees. The JFACC met with subordinate commanders and rescinded the 15,000' MSL altitude restriction and replaced it with a 5,000' MSL restriction for airborne forward air controllers.<sup>16</sup> This was one of the few decisions that knowingly increased the risk to aircrew.

## **V. Tactical “Risk Aversion”**

The wing\*, group and squadron embody the tactical level of execution—the point where policy gets translated into the destruction of war. The wing commander is the “boss of the base.” Risk is a very personal issue to tactical-level commanders. To put it bluntly, wing and squadron commanders deliver the news with a knock on the door at the house of the next of kin when an airman is killed or missing in action.

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\* A Wing normally consists of approximately 5,000 Air Force members; the wing consists of 3-4 subordinate groups; the war fighting group is the Operations Group which normally consists of 3-4 fighter squadrons and each squadron has 18-24 aircraft; the 22 FS possessed 21 F-16CJ aircraft

At the same time, the tactical commanders also have first-hand knowledge and the best view of the battlefield. We are the one who saw the fleeing civilian refugee convoys and the burning columns of smoke from villages as we circled fifteen to twenty-thousand feet above the carnage. No Pentagon spokesman or outraged politician can imagine the tremendous drive and motivation a soldier or airman harnesses after watching the strong violate the weak. One wing commander stated:

It was clear to me from above that we did not want to lose aircraft unnecessarily . . . at the outset, we expected some losses . . . my instructions to the pilots on the first night was that there was nothing we must do tonight, knock it off, come home and we'll go back the next night if it doesn't look right"<sup>17</sup>

This wing commander also mentioned his visceral reaction at the sight of burning villages in Kosovo as the Serbian Army pillaged the countryside. He said this was the defining moment in his career, where he realized the full brunt of airpower should be used to halt the atrocities and NATO should strike those things the enemy held dear. In his mind, Milosevic did not care about the Serbian forces in the field; he did little to reinforce the Third Army and he did nothing to bolster the defenses against allied aircraft attacking his Army in Kosovo. This wing commander also said, *"the next time we go to war and we see where the most SAM's are set up, that's where we should attack the hardest because this is a clear signal of what the enemy holds dear."*<sup>18</sup>

How did tactical level commanders, specifically squadron commanders, balance risk with mission accomplishment? How did they interpret the implied signals from higher echelons of command? A few examples from USAF squadron commanders illustrate varying perceptions.

“Before DS [Desert Storm] began, [B]Gen Buster Glosson came through Abu Dabi and gave a great Patton go to war speech. During the presentation he told us, “Boys there ain’t nothing worth dying for in this God-forsaken area of the world.” Then just before OAF [Operation Allied Force], I heard the same thing from [Lt]Gen Short. . . during the war as a squadron CC [commander] it hit me, this is a [expletive deleted] line that we need to remove from our military lexicon. The bottom line is this, “if it ain’t worth the risk of life, we shouldn’t be there.” . . . We knowingly flew missions where the risk of loss of life was real but the potential for accomplishing the mission was low . . . Airpower has become so risk-free in the eyes of our leaders that the tendency to throw a few airplanes at the problem and “dabble” in airpower will be our greatest challenge as an Air Force in future conflicts.”<sup>19</sup>

Yet another squadron commander saw the conflict through a different set of lenses:

“I went with the same proposition we had at ONW [Operation NORTHERN WATCH]—nothing in Serbia is worth risking your own life over. I elected to stay with this as my guiding principle primarily because we were in a battle of wills—Serbia vs. The World. There were no troops in contact, nor were there screaming hordes sweeping down to invade other defenseless countries. The refugees were moving out quickly, and the majority of the atrocities had already been committed. We were merely blowing stuff up until the Serbs finally decided to leave Kosovo—time was not an issue, there was no sense of urgency . . . Overall, I thought the low risk approach was correct—not because we were afraid (as some may have suggested), but because I did not want to explain to some guy’s wife that she lost her husband on a mission hitting a target that was not in and of itself significant to the outcome of the conflict.”<sup>20</sup>

Political and military constraints at the strategic and operational levels crept into the psyche of at least one squadron commander charged with the responsibility of controlling air strikes in Kosovo:

“The assumptions that first, a bombing operation is not war and involves no risk is absurd . . . We do not need the [National Command Authority] showing our hand and basically exposing our center of gravity (no ground forces, the nation does not have the political will to lose a soldier on the ground, NATO could not proceed) . . . I feel strongly that you must introduce the fact that we would have rather planned and executed a joint campaign that at least involved the threat of ground troops and that demonstrated an unwavering political will. . . . The actual execution of the mission was then hindered by the ROE [Rules of Engagement], (no cloud breaks; 15,000’ minimum altitude, no weapons release unless target ID’ed, no reattacks initially, night only...).”<sup>21</sup>

At the tactical level, guidance and mission priorities are transmitted through the daily Air Tasking Order (ATO). The ATO represents the theater CINC’s or JTF commander’s (strategic-operational level) priorities for the following day’s military operations. The JFACC’s staff (operational-tactical level) translate the CINC’s priorities

and guidance into force composition, targets, munitions and other details that “give the mission” to the wing and squadron commanders (tactical level) for execution. The ATO is where the tactical commanders receive their mission orders and prioritization for the next day’s assets.

Allied Force ATO’s included the CINC’s priorities for targets sets, fielded forces in Kosovo followed by other target sets; the CINC’s priority for intelligence collection, locating refugees and fielded forces in Kosovo followed by other target collection opportunities; and the litany of operating restrictions for allied aircraft—minimum altitudes, target identification procedures, etc. **Guidance for the level of risk to aircrews was not included in this directive.** The only guidance for risk was issued through telephone conversations and VTC’s to operational level commanders—the explicit guidance ended there.

## **VI. Impact on the 22<sup>nd</sup> Fighter Squadron**

How did this conundrum of risk, casualty aversion and mission accomplishment affect one aspect of the tactical-level forces? Let’s examine the forces charged with the responsibility of providing protection to strike aircraft in the conflict. The Allied Force mission for the 22 FS was Suppression of Enemy Air Defenses (SEAD). SEAD is defined by joint doctrine as, “*that activity which neutralizes, destroys, or temporarily degrades surface-based enemy air defenses by destructive and/or disruptive means.*” <sup>22</sup> Every strike package in Serbia and every pair of fighters operating in the Kosovo Engagement Zone (KEZ) were protected by at least one pair of F-16CJ aircraft or other allied SEAD-capable aircraft.

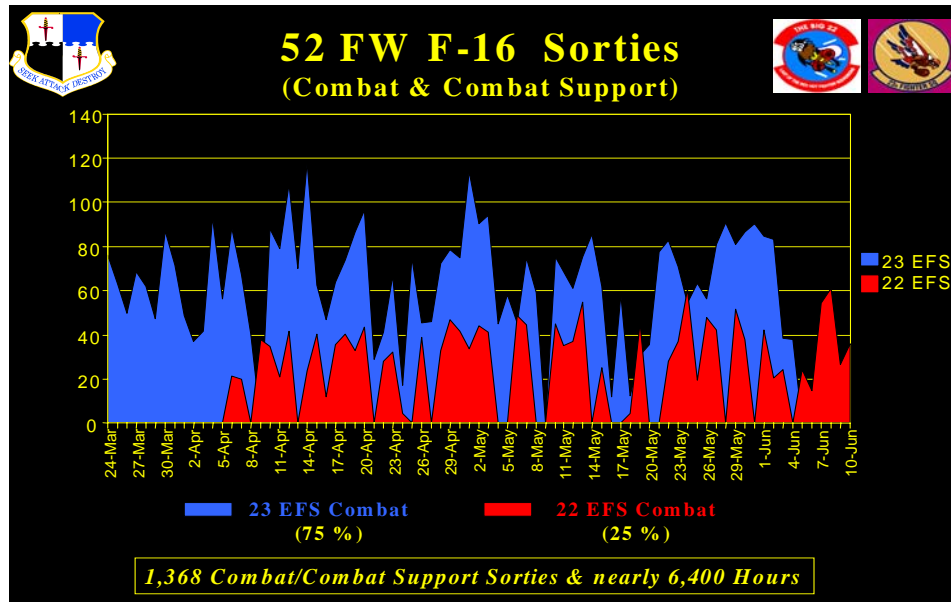
Two key events increased the SEAD tasking early in the conflict. First, the persistence of the Serbian Integrated Air Defense System (IADS); the loss of an F-117 stealth fighter on the fourth night resulted in a quick change in operating procedures—SEAD assets were tied directly to the support of stealth strike missions from that point forward. Second, as NATO lost the gamble of a quick capitulation by the Serbian government, additional fighters were deployed to the theater to increase the intensity and frequency of strikes against Serbia and Kosovo.

Initial SEAD tasking was provided by the 23 FS, deployed from Spangdahlem Air Base (AB), Germany, to Aviano AB, Italy. The 22 FS was redeployed from Operation NORTHERN WATCH at Incirlik AB, Turkey, to Spangdahlem AB, Germany, on Day 12, and the 78 FS was deployed from Shaw AFB, S.C., to Aviano AB, Italy, in early April 1999. By Day 27 of the war, three squadrons of USAF SEAD aircraft were providing round-the-clock coverage for Allied Force fighters and bombers. A German Air Force Tornado squadron augmented these SEAD squadrons.

Protecting the force entailed a large commitment of SEAD assets. A typical SEAD package consisted of at least one EA-6B “Prowler” providing electronic protection through jamming and suppression, one RC-135 “Rivet Joint” aircraft for surveillance and electronic detection and two F-16CJ “Wild Weasel” aircraft for electronic attack or suppression through AGM-88 High-Speed Anti-Radiation Missile (HARM) employment. Large strike packages consisted of 6-8 F-16CJ’s to provide adequate coverage in high threat areas.

Risk to fighter and bomber aircrews was mitigated by the large-scale employment of SEAD packages. The two 52 FW SEAD squadrons flew nearly 1,400 sorties and

6,400 hours in the 78-day war (Figure 2). This flying hour tempo equates to the annual flying hour program for a single F-16CJ squadron. In other words, two fighter squadrons flew at double the normal flying hour rate consumed in a normal year.



**Figure 2. 52 FW F-16CJ Sorties Flown during Allied Force<sup>23</sup>**

For 78 days and nights, F-16CJ pilots operated in the realm of the “Wild Weasel” mission to provide force protection to NATO aircraft. The weasel is known for its agility and quick striking ability against its nemesis, the mongoose, and there is a long legacy of “Wild Weasel” missions adopted by aircrews dating back to the Vietnam War (F-100, F-105) and the Gulf War (F-4G). However, Allied Force SEAD packages were restricted to perform only the suppression portion of the mission—and were precluded from destruction methods of employment.

The operational level commander (JFACC) chose not use SEAD assets to effectively target enemy air defenses for destruction until well into the conflict. The result was increased risk, as the Serbian air defenses began to move their SAM’s and work inside the NATO intelligence planning cycle. That is, the SAM’s shot, moved,



relocated and re-engaged coalition aircraft quicker than the operational planning staff could reacquire and target the systems for destruction by other aircraft. The effect was clear and obvious to the airmen who flew over the battlefield every night. Two separate proposals to conduct a destructive SEAD effort, known as destruction of enemy air defenses (DEAD), were forwarded to the operational planning headquarters, (the Combined Air Operations Center (CAOC)), in the third week of the war, located at Vicenza, Italy. Both were refused by the CAOC because of the perceived risk level to the aircrews that would prosecute the DEAD attack.<sup>24</sup>

Tactical-level SEAD mission planners believed the option was feasible, suitable and acceptable for several reasons.

1) DEAD is an accepted tactic, technique and procedure outlined in the United States' Air Force Tactic Technique Procedure (AFTTP) 3-1 SEAD volume. AFTTP 3-1 is the fighter pilot's bible for war; it contains tactics that have received the United States Weapons School's seal of approval, validated through operational test and evaluations, and approved by Air Combat Command for use throughout the Combat Air Forces.

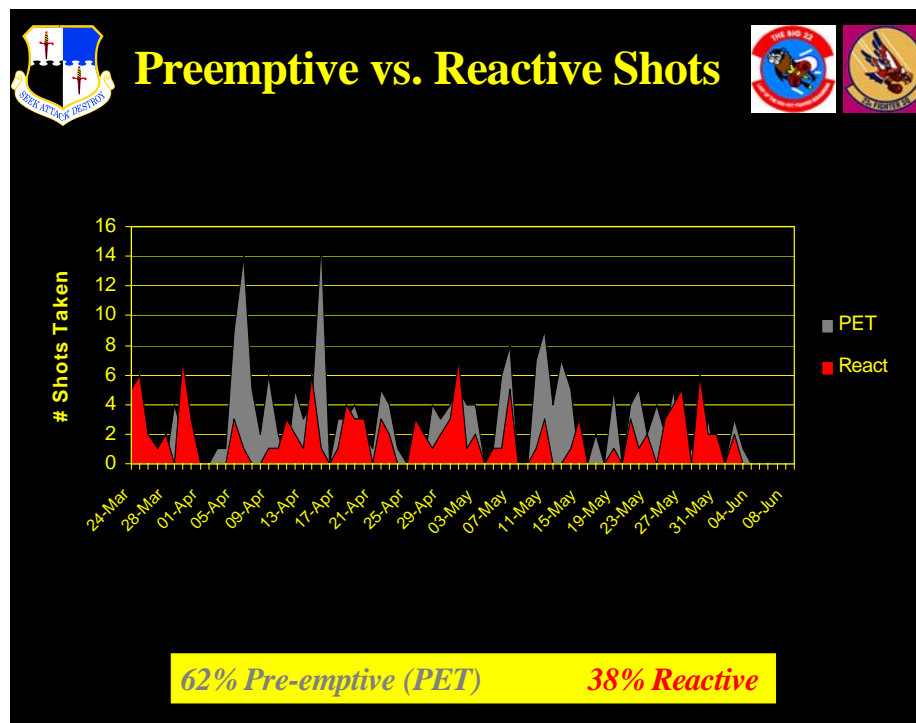
2) DEAD is a combat-proven approach. DEAD tactics used in Operation Northern Watch, weeks prior to Allied Force, were responsible for the destruction of more than a dozen Iraqi SAM sites and Command & Control facilities.<sup>25</sup>

3) The same units (F-16CJ, EA-6B, RC-135 and F-15E aircraft) that honed the combat use of DEAD In Northern Watch were flying combat in Allied Force. The procedures were well known and previously executed with stellar results--results that destroyed enemy SAM and C2 systems with zero losses.

DEAD tactics consist of a coordinated, precise plan to locate, identify, suppress and destroy SAM sites. F-16CJ Wild Weasels, EA-6B Prowlers and RC-135 Rivet Joint aircraft combine their efforts to locate and identify SAM sites for attack. Once a site is located, the F-16CJ Wild Weasels pass the target's location and identification to the strike aircraft (F-15E, F-16CG).<sup>26</sup> After the target information is passed and coordinated with the strike aircraft, the entire mission package begins the attack on the target combining suppression and destruction capabilities against the targeted SAM site and maximizes force protection while emphasizing a permanent kill. These attacks are prosecuted within thirty minutes of entering the adversary's airspace.

Allied Force's SEAD concept of operations increased the risk to aircrews by allowing the Serbians the opportunity to shoot first. Without DEAD authorization, F-16CJ's were restricted to firing preemptive AGM-88's against "possible" SAM locations followed by shots of retribution once a SAM site showed its hand and launched at NATO aircraft. The suppress vs. destroy nature of the operation placed aircrews at a greater risk over time. 52 FW F-16CJ's fired 128 AGM-88's in response to SAM engagements or the presence of Early Warning Radar emissions--Radars that fed information to SAM batteries during the course of the engagements (Figure 3). An additional 212 AGM-88's were fired against possible SAM locations in a preemptive (PET) mode of operation. PET shots required precise intelligence information on the location of SAM systems and required the SAM operator to use his Radar when the AGM-88 was in flight and in a position to intercept the SAM Radar emission. These two requirements placed the effectiveness of the PET shot in the hands of the intelligence gathering community and the willingness of the enemy to use his radar at a precise time. On the other hand,

reactive shots were taken as the enemy engaged NATO aircraft—usually after a SAM was in flight and heading towards a NATO aircraft.



**Figure 3. 52 FW F-16CJ Preemptive and Reactive shots against Serb IADS<sup>27</sup>**

Persistence and only smart anti-HARM tactics by Serbian SAM operators allowed the Serbian IADS to survive and engage NATO aircraft throughout the conflict. A smart SAM operator would turn off his radar when a HARM was launched against his site. By turning off his radar, the SAM operator lost his ability to shoot down the intended target, but he ensured his own survivability, and may have caused NATO airmen to deviate from their bombing attack and/or jettison their ordnance before reaching the target area. This game of cat and mouse continued until the air campaign ended on June 10<sup>th</sup>.

The persistence of the Serbian IADS was captured in the DoD's Report to Congress on Kosovo:

During Allied Force, NATO aircraft flew approximately one-third the number of combat sorties (21,000) that were flown by coalition aircraft during Operation Desert Storm (69,000). However, the number of radar-guided surface-to-air missiles launched by the Serbs during Allied Force was almost the same as the number launched by the Iraqis during Desert Storm. As a consequence, the average aircrew participating in **Allied Force experienced a missile launch rate three times that encountered by the average coalition aircrew during Desert Storm . . .** Based on the ration of combat losses to sorties, **NATO aircrews participating in Allied Force were six times less likely to be shot down** than were coalition aircrews engaged in Desert Storm.<sup>28</sup>

U.S. and NATO airmen had the benefit of nearly a decade of new equipment and training designed to operate in the medium altitude environment since the end of Desert Storm. From the perspective of an active participant in this conflict, the reduced loss of aircrews should be credited to the current fighter force structure (A-10, F-15, F-16, F-117, F/A-18) and training— rather than attributed to an ineffective adversary. The Serbian IADS calculated their risk during engagements and heightened their survival by moving SAM sites on a routine basis as the conflict dragged on.

I wrestled with the implied issue of risk, casualty aversion and mission accomplishment in concrete terms. The only specific guidance was issued verbally from higher echelon commanders that stipulated pilots would not taxi from aircraft shelters unless the aircraft was fully mission capable. We operated with a “rolling” mission essential list (MESL) for combat missions. This rolling list determined:

1. Pilots must have fully mission capable aircraft prior to takeoff.
2. All defensive aircraft systems (active and passive electronic countermeasures, expendable countermeasures), a majority of offensive aircraft systems (AGM-88, air-to-air weapons, aircraft radar), and basic aircraft systems (engine, hydraulics, electronics) must be operable prior to entering Serbian airspace.

Pilots were given latitude to determine the level of offensive aircraft systems degradation they could accept and still accomplish their mission tasks while they were trusted to abide by the operable defensive aircraft systems rule.

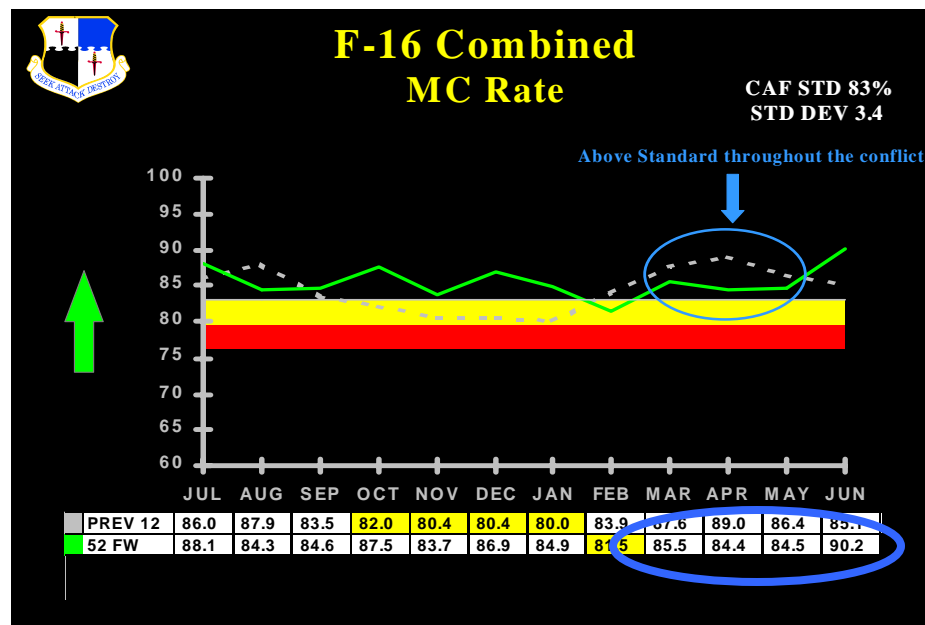
Thus the trickle-down impact of risk and casualty aversion ran its course.

<u>LEVEL</u>	<u>COMMANDER</u>	<u>GUIDANCE</u>
STRATEGIC	NCA	“No U.S. ground forces”
STRATEGIC-OPERATIONAL	CINC	“No loss of aircrews”
OPERATIONAL	JFACC	minimum altitudes
TACTICAL	Wing	fully mission capable aircraft

To accomplish the mission tasking while flying at high tempo flying hour rates, the squadron had to mitigate risk. I mitigated this risk by establishing the MESL. That way, the squadron met the intent of higher echelon risk concerns, while ensuring adequate resources were flown to protect NATO aircrews every night.

Ultimately, the impact of the risk and mission accomplishment dilemma fell onto the shoulders of the airmen on the flight line. The daily ATO SEAD requirement caused F-16CJ maintenance teams to fly and fix aircraft at a “surge” flying hour rate. 52 FW maintainers did a superb job of supporting F-16CJ aircraft from two separate, simultaneous locations. The mission capable (MC) rate, the rate that measures the percentage of F-16CJ aircraft available to meet mission tasking on a daily basis, exceeded the USAFE standard of 83% throughout the 78-day air campaign (Figure 4). This phenomenal performance reflects the top priority given to combat units for the flow of spare parts into theater and the sound, professional flight line maintenance habits of

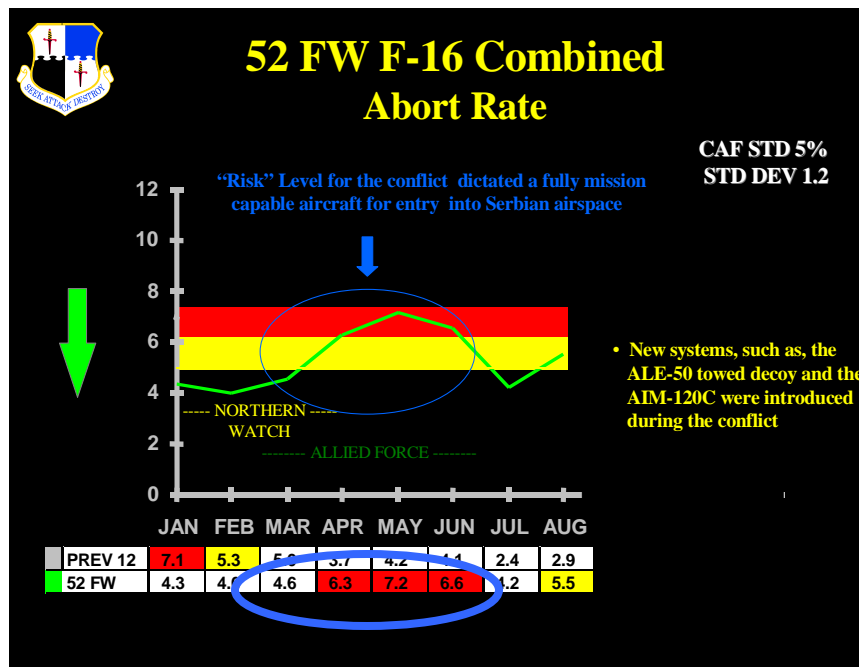
airman--crew chiefs, weapons loaders and aircraft specialists, as well as, the keen supervision by senior and mid-level NCO's in the fighter squadrons.



**Figure 4. 52 FW F-16CJ Mission Capable Rates**

The risk requirement for the rolling MESL on a mission headed into Serbia exceeded the daily practice in peacetime because of the threat of combat losses. Abort rates and break rates reflect the conservative nature of risk requirement during this conflict and the effect it had on generating aircraft for each night's missions. Early in the conflict the abort rate, the percentage of time aircraft aborted on the ground prior to takeoff or aborted in flight prior to entering Serbian airspace, was driven by combat systems problems (Figure 5). This is a reflection of the introduction of new equipment at the outset of the conflict, including; the ALE-50 active towed radar decoy, a defensive countermeasure designed to confuse SAM's that were shot at F-16CJ aircraft, and the AIM-120C advanced medium range air-to-air missile. Both systems were fielded with incomplete technical order data and there was an unknown incompatibility between these two systems on F-16CJ aircraft. Later in the conflict, basic aircraft systems such as the

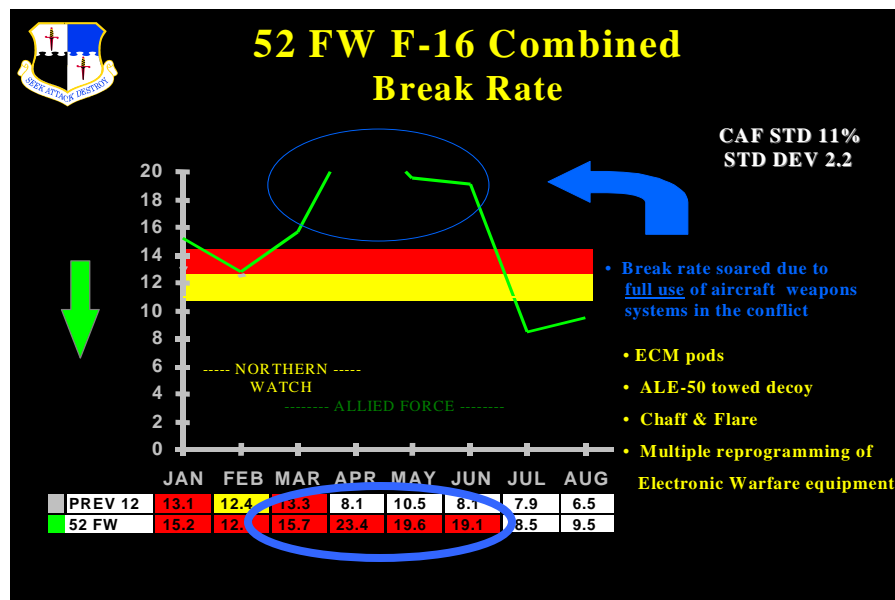
fuel system and landing gear systems showed the signs of stress and failed at greater than average rates. The failure of the combat systems early on, and the basic aircraft systems as the conflict dragged on, forced pilots to abort missions prior to entering Serbian airspace.



**Figure 5. 52 FW F-16CJ Abort Rate**

The break rate, or the percentage of missions a pilot returned from a mission with a degraded or inoperable system exceed normal peacetime rates and increased the tempo for maintenance operations on the flight line (Figure 6). Again, risk requirements dictated a fully mission capable aircraft when a pilot showed up on the flight line. The operating tempo kept the maintenance personnel busy as they reacted to weapons systems degradation as aircraft returned to base. The break rates were highlighted by the same systems mentioned above that caused pilots to abort missions, as well as, other defensive countermeasure systems. Some defensive countermeasures systems, such as the ALE-50 and the ALQ-131 electronics countermeasure pod, would fail after pilots were already in

Serbian airspace and did not impact mission accomplishment—they increased the risk to the pilot with the failed system.



**Figure 6. 52 FW F-16CJ Break Rate**

At the tactical level, the 78-day air war over Serbia, consumed a tremendous amount of resources, in terms of sorties and hours flown, weapons expended, and maintenance sortie generation and aircraft repair. The number of resources expended to conduct the SEAD mission was directly related to the balance of risk and casualty aversion—providing large-scale SEAD forces to protect NATO aircraft while ensuring SEAD pilots maximized their chance of survival—with mission effectiveness.

## **VII. Conclusion and Recommendations**

The foregoing analysis lists several lessons that can be drawn from the way the U.S. and NATO fought the air war over Serbia.

**1. Confront Risk Level and Casualty Aversion at all Levels**– It was clear that the U.S. was first and foremost concerned with minimizing casualties, probably to maintain public support, which was not fully engaged or mobilize before hostilities began. Additionally,



each echelon of command below the NCA issued explicit guidance or sent implied signals to subordinates that minimizing risk to NATO forces was a primary objective.

Reference a Washington Post interview with the JFACC:

“...Clark never gave him any special guidance not to lose any airplanes, as previously reported, but he acknowledged that "zero losses" was a primary goal. “I wanted to destroy the target set and bring this guy [Milosevic] to the negotiating table without losing our kids . . . I told them in no uncertain terms that we were not going in below 15,000 feet,” he said, emphasizing they would be flying only at night and should not make multiple passes or other maneuvers that would entail unnecessary risks.”<sup>29</sup>

Yet, the commanders who flew the combat missions internalized a struggle between the implied strategic/operational objective of “no losses” and the stated strategic objective of “halt[ing] ethnic cleansing.” Different squadron commanders interpreted implied objectives based on their personal assessment of the relative importance of the air war. Divergent perceptions of implied objectives impede unity of effort in the chain of command. Are we following the stated objectives to “halt ethnic cleansing,” are we trying to “demonstrate NATO resolve,” or are we trying to just survive the night’s engagement with the enemy? And if you are trying to do all the above, now do you reconcile the inherent contradictions?

**2. Publish a “Risk” Level in the Air Tasking Order.** Strategic and operational level commanders shared their concerns over the acceptable risk level and the balance between risk and mission accomplishment. However, risk was not included in formal guidance to tactical level commanders, thus allowing for varying interpretations of the intended priorities and objectives of senior level commanders. Tactical level commanders should be afforded the knowledge of the balance between mission accomplishment and risk. The USAF Weapons School successfully included risk levels for mission execution in the early 1990’s to provide tactical level guidance to

flight leads so they would understand the level of aggressiveness and the anticipated level of combat losses to be expected on missions flown against formidable adversaries. There should be a linkage between the strategic level risk assessment and the tactical level risk for mission execution. Risk can be identified in one of three separate categories:

A. High Risk – a target worth dying for; destruction is critical to accomplishing specific military objectives. Aircrews would be expected to continue to the target with degraded or inoperable aircraft systems and deliver their ordnance. This risk level equates to survival of the nation objectives. One envisions World War II bombing raids on Ploesti, Regensburg, Tokyo, etc., in this context.

B. Medium Risk – a target worth accepting the risk of loss of life; destruction is important to accomplishing specific military objectives. Aircrews would be expected to continue to the target area with degraded defensive and offensive weapons system capabilities. This risk level equates to important national objectives. Night missions in Desert Storm that destroyed Iraqi IADS and paved the way for attacking forces is symbolic of this risk level.

C. Low Risk – a target not worth accepting the loss of life beyond a reasonable effort; destruction is not important to accomplishing a direct impact on specific military objectives. Aircrews would be expected to abort a mission against this type target if offensive and defensive systems are degraded, or force composition does not include required assets to adequately protect the force. This risk level equates to other national objectives. This risk level would not be used in an actual air campaign. It should only be used in a show of force or military demonstration of

capability—if at all. Any combat mission flown against an armed adversary carries an increased risk of loss of life compared to peacetime flight operations.

### 3. Understand the Impact Risk Mitigation can have on Mission Accomplishment.

In the early days of the air war over Serbia, while NATO was trying to “demonstrate resolve” and NATO leadership was concerned with holding the alliance together by minimizing loss of aircrew’s lives, the Kosovar Albanians were under terrible siege by the Serbian Third Army forces. The Kosovo Engagement Zone, an area that overlaid Kosovo, was established on Day 23 (April 14),<sup>30</sup> days after the mass migration of Kosovar Albanians had already been driven from their villages (Figure 7).

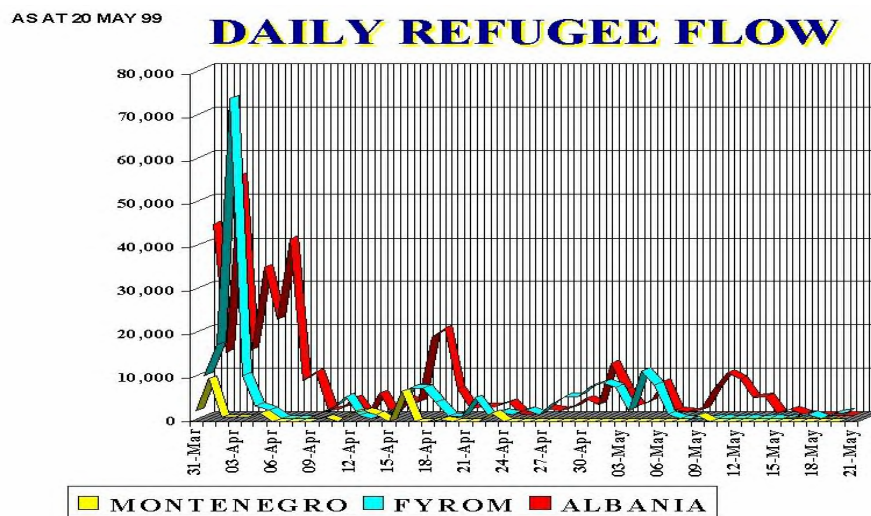


Figure 7. Daily Refugee Flow<sup>31</sup>

**4. Don’t Cede the Initiative to the Adversary While Building Consensus.** Building consensus in a coalition while engaged with a smaller power can have debilitating effects. While the larger power, or alliance, musters political resolve, the smaller power has the opportunity to dictate the tempo of military operations and can seize the strategic initiative. Resolve and consensus building should occur before the conflict—not while at war.

“Again, suppose a small power is at war with a greater one, and that the future promises nothing that will influence either side’s decisions. If the political initiative lies with the smaller power, it should take the military offensive. Having had the nerve to assume an active role against a stronger adversary, it must do something definite—in other words, attack the enemy unless he obliges it by attacking first. Waiting would be absurd, unless the smaller state had changed its political decision at the moment of executing its policy.”

Clausewitz, “On War”<sup>32</sup>

This was understood at the operational level and is a good lesson to learn for future coalition or alliance warfare. Gen Short said in a televised interview:

“I believe that before the first bomb was dropped, the door should have been closed, with all those inside who wished to go to war. The United States should have said very clearly, “It appears that NATO wants to go to war in the air, and in the air only. If that is the case, the sentiment of the nations here, we will lead you to war . . . Those of you who do not approve of what we’ve designed, pull your forces from the effort on that night or for a series of nights. We understand that. But you don’t get to stop the effort. You don’t have the ability to change the thrust.”<sup>33</sup>

**5. Remember that Risk is in the Eye of the Beholder.** The Serbians started the war with less than 50 Radar-guided Surface-to-Air Missile systems.<sup>34</sup> Allied Force SEAD assets exceeded the number of enemy radar-guided air defense systems by a factor of 2:1. Later, additional SEAD assets were increased to a total of 64 F-16CJ aircraft alone—plus the full compliment of EA-6B, German Tornado and USN F/A-18 SEAD assets. NATO SEAD assets greatly outnumbered and outweighed the Serbian IADS. A commander should use his dominant force to destroy a numerically inferior foe. The three USAF SEAD squadrons flew nearly 2,500 SEAD sorties during the conflict with little permanent destruction inflicted on the Serbian Integrated Air Defense System (IADS).

Early concentrated DEAD operations can seize the initiative and set the tone for the entire campaign. Executing the air war as the “hunter” instead of the “hunted” forces the adversary to react to your scheme of maneuver. Intelligence sources had accurate information on Serb SAM systems at the outset of the war. As the weeks progressed, the intelligence system failed to accurately track Serb SAM sites—partly because of the CINC’s intelligence collection priorities and partly because the Serbians became adept at

moving and concealing their SAM sites. DEAD missions locate, identify, and destroy SAM sites with precision. DEAD was invented to give airpower a real-time ability to find and kill previously unlocated SAM sites. Its key principle is in maintaining an offensive posture—to hunt versus being hunted. Is an offensive posture riskier to aircrews than a defensive posture? Ask the airmen who were surprised night after night by SAM's fired from unknown locations as NATO aircraft flew into Serbia. They will tell you the great frustration from seeing missiles launched and knowing the sites would survive, and then relocate, for airmen to be hunted another day. After hunting SAM's and surviving for three months in the Iraqi area of responsibility, this was a bitter pill to swallow. Ceding the initiative to the adversary is not the way Americans have been trained to fight.

**6. Low Casualties or Zero Casualties can be Achieved.** However, this objective can outweigh the effort to meet specific military objectives such as halting ethnic cleansing, compelling an enemy's military force to withdraw from disputed regions, or causing an opposition government to capitulate. A zero casualty mindset creates a defensive military posture, one that does not concentrate on maximizing firepower, massing forces, or seizing objectives. This mindset is a dangerous change to the offensive nature of the American way of war. Hesitation, uncertainty about commitment to the war effort, and tentative decision-making are, all too often, the unintended by-products of this process.

The United States has shown a pattern of armed intervention in sovereign nations since the end of the cold war. Varying levels of military force in Somalia, Bosnia, Haiti, Iraq and Serbia, as well as, TLAM strikes in the Sudan and Afghanistan, marked America's diplomatic forays into the uncertain post-cold war world. If this marks the

new way of waging war from the United States, then commanders at all levels need to address the issue of risk and casualty aversion in a forthright manner. It may be right to emphasize minimal loss of life when America's vital interests are not at stake—but this also does not equate to a quick, decisive victory. Additionally, senior commanders must understand that those who are engaged in the fog, friction and uncertainty of combat are better positioned to assess actual risk than those who are viewing combat from afar.

## Notes

1. Joint Pub 1-02, DoD Dictionary of Military and Associated Terms, 23 March 1994, p 388.
2. House Concurrent Resolution 29, 10 Feb 1999, was introduced by Rep. Fowler, (R-FL) and co-sponsored by 59 other members of the House of Representatives.
3. House Concurrent Resolution 42, 8 Mar 1999, was introduced by Rep Gilman (R-NY) and passed by the House on 11 Mar 1999; the limitations for deploying U.S. armed forces in Kosovo included a written statement from the President explaining the national interest at risk in Kosovo, ensuring command authority by U.S. military officers, specifying the exit strategy, identifying the percentage of U.S. forces relative to other NATO forces, time frame for withdrawal, rules of engagement, budgetary implications, and other detailed requirements.
4. House Concurrent Resolution 32, 11 Feb 1999, introduced by Rep Engel (D-NY) and co-sponsored by 21 members of the House.
5. House Concurrent Resolution 72, introduced on 24 Mar 199 by Rep Hastings (D-FL) and passed by the House.
6. House Concurrent Resolution 96, introduced on 5 May 1999 by Rep Hayes (R-NC)
7. Senior Joint Staff flag officer, interview by author, Washington, D.C., 10 Dec 1999. This flag officer participated in “tank” meetings with the Joint Chiefs, as well as, National Security Council meetings during the planning process for Allied Force. He noted that the Joint Chiefs ruled out ground force because the Joint Chiefs believed this level of force and the predicted casualty rate would be unacceptable to the political leadership and the American public.
8. President Clinton’s address to the nation, 24 Mar 1999, 8:01 EST. Emphasis added.
9. General Clark was dual-hatted as CINCEUR and the Supreme Allied Commander, Europe (SACEUR). He served two separate political masters; the United States National Command Authority and NATO’s North Atlantic Council.
10. The 32 Air Operations Group (AOG) executed the mission planning; the Group’s peacetime function served under the USAFE’s Deputy for Operations. As the conflict approached, the 32 AOG was “chopped” to the Joint Task Force-Noble Anvil (JTF-NA) staff under the Joint Force Air Component Commander (JFACC).
11. Lt Gen Begert, former Vice Commander, U.S. Air Forces in Europe (USAFE/CV), USAF, interview by author, Washington, D.C., 19 Apr 2000. Lt Gen Begert stated that Gen Clark emphasized the goal of “no loss of aircrews” during the planning phase (Jun ’98- Feb ’99) and daily video teleconferences during the air war over Serbia.
12. ADM Ellis was dual-hatted in peacetime as the Commander-in-Chief, United States Navy, Europe (CINCUSNAVEUR) and NATO’s Commander-in-Chief, Allied Forces, Southern Europe (CINCSOUTH). In both the peacetime and wartime functions, he was directly subordinate to General Clark. Lt Gen Short was dual-hatted in peacetime as Commander, 16<sup>th</sup> Air Force, and Commander, Allied Air Forces Southern Europe (COMAIRSOUTH. Lt Gen Short was subordinate to ADM Ellis in his peacetime NATO position as COMAIRSOUTH and subordinate to General Jumper (COMUSAFE) in the U.S. chain of command.
13. Lt Gen Short, 16 AF/CC, interview by Frontline “War in Europe,” Public Broadcasting System, 15 Sep 1999. Gen Clark stated the Serbian Third Army in Kosovo

was the enemy's center of gravity; whereas, Lt Gen Short believed Serbia's political and military leadership in Belgrade was the center of gravity.

14. Ibid.

15. Ibid.

16. Ibid; Lt Gen Short met with the 81 FS/CC (A-10) and allowed Forward Air Controllars to fly as low as 5,000' MSL to positively identify targets prior to clearing fighter aircraft to drop bombs.

17. Brig Gen Dan Leaf, former 31<sup>st</sup> Air Expeditionary Wing Commander, interview by author, Washington, D.C., 19 April 2000.

18. Ibid.

19. Allied Force USAF squadron commander #1, interviewed via e-mail, 27 March 2000.

20. Allied Force USAF squadron commander #2, interviewed via e-mail, 8 April 2000.

21. Allied Force USAF squadron commander #3, interviewed via e-mail, 17 March 2000.

22. Joint Pub 1-02, *DoD Dictionary for Military and Associated Terms*, 23 March 1994.

23. The 22 EFS flew SEAD missions from Spangdahlem AB, GM, under the control of the 52 Air Expeditionary Wing; the 23 EFS deployed from Spangdahlem AB, GM to Aviano AB, It, and flew under the control of the 31 Air Expeditionary Wing during ALLIED FORCE. Each expeditionary squadron consisted of a "rainbow" operation of pilots and aircraft from each squadron.

24. The 22 EFS and 23 EFS Commanders delivered the concept to the CAOC staff in mid-April and were denied due to a perception of increased risk to aircrews participating in DEAD operations. A senior officer in the CAOC planning cell briefed the JFACC on the DEAD concept several times and was rebuked for the same perception of increased risk to aircrews. Additionally, the JFACC addressed the issue at a commander's meeting in Aviano, Italy, in mid-May. His response was, "we're not going trolling for SAM's," which indicated unfamiliarity with AFTTP 3-1 DEAD procedures.

25. Exact number of SAM sites and C2 facilities are classified by the Combined Task Force-Operation Northern Watch; the figures in this paper reflect the 52 FW F-16CJ's ONW combat experience from 28 Dec 98-1 Mar 99 in conjunction with F-15E's from the 48 FW.

26. F-15E's are armed with laser-guided bombs or AGM-130 standoff munitions; F-16CG's are armed with laser-guided bombs.

27. This chart is derived from the 52 FW (22 EFS and 23 EFS) shot summary for Allied Force. There were 25 reactive shots against SA-3 systems, 54 reactive shots against SA-6 systems and 51 shots against active Early Warning/Acquisition Radar systems.

28. DoD Report to Congress, Kosovo/Operation Allied Force After-Action Report, 31 Jan 2000, p 65.

29. Lt Gen Mike Short, USAF, JFACC, Interview with William Drozdiak, published in the Washington Post, May 24, 1999.

30. DoD Press Briefing Chart, *NATO Effectiveness against Serb Ground Mobile Targets in Kosovo (Cumulative)*, 10 Jun 1999. This chart shows the establishment of the KEZ on 14 April 1999.

31. Diagram presented at the daily NATO press briefing on 20 May 1999



32. Clausewitz, *On War, Book Eight "War Plans," Chapter 5, "Closer Definition of the Military Objective—Continued: Limited Aims*, p. 602, emphasis added
33. Ibid, PBS Frontline Interview
34. Air War Over Serbia Fact Sheet, produced by United States Air Forces in Europe, 31 Jan 00, states there were 2 SA-2 systems, 16 SA-3 systems and 27 SA-6 systems (80 SA-6 launchers @ 3 launchers/SA-6 battery=27 systems) for a total of 45 Radar-guided SAM systems)